



PELTOR™

**3M™ PELTOR™ ComTac™ VI NIB
and SWAT-TAC™ VI NIB
Tactical Communication
and Hearing Protection Headsets**





Hearing is believing

The next generation of tactical headsets from 3M™ PELTOR™ is here.

Contents

Hear the Difference	03
.....	
Environmental Listening	04
.....	
Mission Audio Profiles (MAP)	07
.....	
Natural Interaction Behavior (NIB)	12
.....	
Science of Fit	14
.....	
Configuration Options	16
.....	
Push-to-Talk Adapters	18
.....	
Communications Interface	19
.....	
Performance Specification	20
.....	
Earplug Mode	21
.....	
Know Your Protection	22
.....	
Ordering Information	23
.....	

Hear the difference

3M™ PELTOR™ ComTac™ VI has new omni-directional microphones, high fidelity speakers, and a new digital signal processor that improves the overall sound quality of the headset.



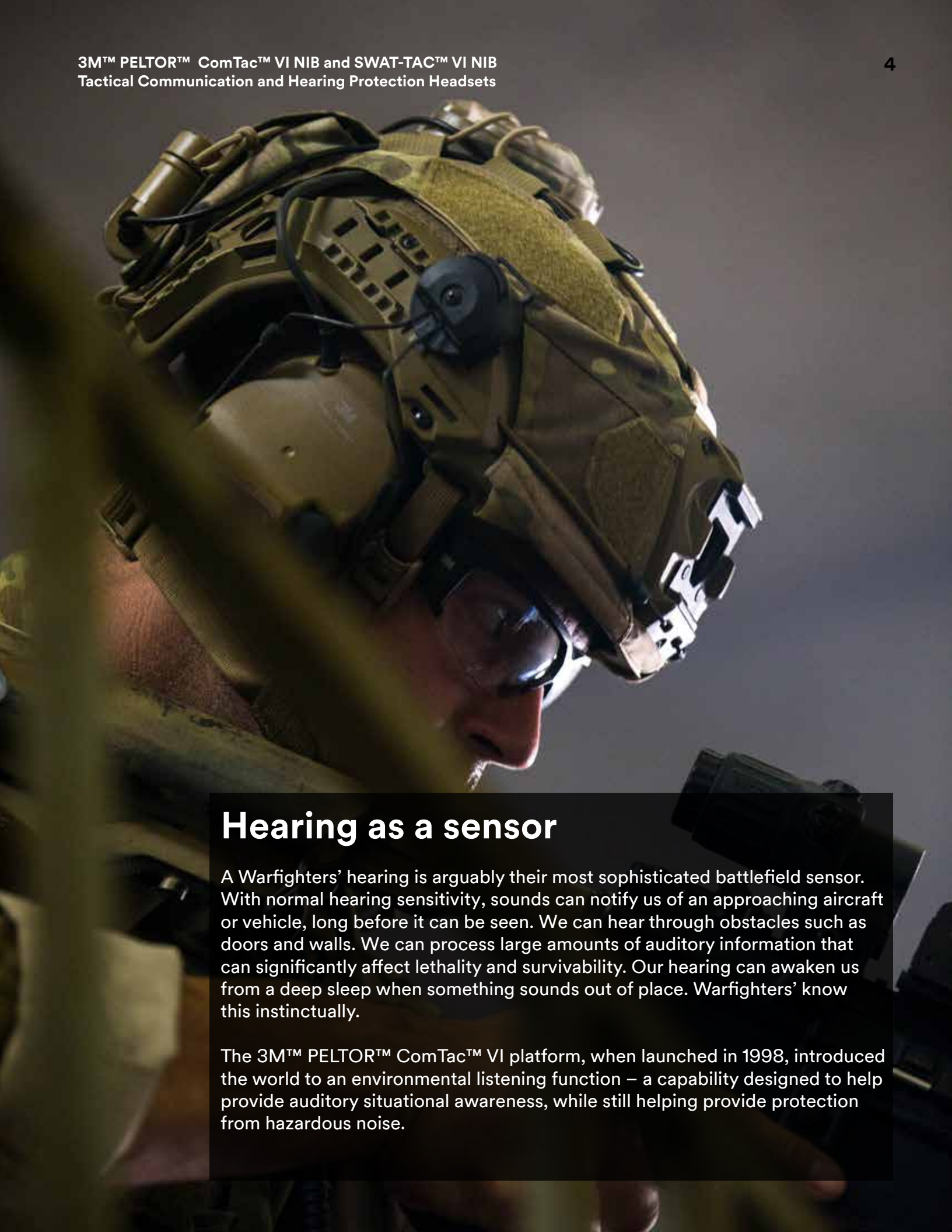
Clear, natural

These improvements result in a more natural sounding headset with sound and voice clarity designed for combat and combat support operations in complex acoustical environments.

Hear and be heard

The transmit microphone has been redesigned and embedded with patented 3M closed cell foam and delivers improved noise cancelling transmission in high noise and wind while also improving dust and water ingress protection.





Hearing as a sensor

A Warfighters' hearing is arguably their most sophisticated battlefield sensor. With normal hearing sensitivity, sounds can notify us of an approaching aircraft or vehicle, long before it can be seen. We can hear through obstacles such as doors and walls. We can process large amounts of auditory information that can significantly affect lethality and survivability. Our hearing can awaken us from a deep sleep when something sounds out of place. Warfighters' know this instinctually.

The 3M™ PELTOR™ ComTac™ VI platform, when launched in 1998, introduced the world to an environmental listening function – a capability designed to help provide auditory situational awareness, while still helping provide protection from hazardous noise.



Environmental listening

The environmental listening feature, also known as “talk-through” is a means of allowing safe audio sounds to bypass the individual hearing protection electronically while still helping protect against harmful noises. This is accomplished with 3M’s proprietary digital audio circuit integrated into the headset.

A microphone receives the sounds outside of the headset and transmits them to a speaker inside of the headset. The level-dependent digital audio circuit senses noise levels above the desired threshold and compresses them to a safe decibel level or amplifies weak sounds to an audible level.

Sound detection.

Sound identification.

Sound localization.

Speech communications.

**All important components of auditory
situational awareness, impacting
Warfighter efficiency and safety.**

Hearing is believing.

3M™ PELTOR™ ComTac™ VI environmental listening function has been greatly improved by incorporating new omni-directional microphones and high fidelity speakers that can pick up sounds with great sensitivity and help replicate sound more clearly and accurately.

Additionally, the new digital signal processing circuitry and new transmit microphone help improve speech intelligibility and the environmental listening function's ability to detect and locate sound from previous generations of the platform.



Mission Audio Profiles (MAP)

The 3M™ PELTOR™ ComTac™ VI offers a new way to adjust the auditory settings of your headset for your mission. Traditionally, a headset has a set frequency response, and the operator can only increase or decrease the volume.

The MAP function provides new advanced ambient listening modes that allow access to a variety of gain settings, but with frequency shaping, to enhance auditory performance in five conditions. The MAP Profiles have been designed with a variety of combat and combat support operations in mind.



Mission Audio Profile 1: Observation

Highest volume and widest frequency response to maximize hearing when the user is still (overwatch, hide spot, stop to listen, etc).



Mission Audio Profile 2: Patrol

High volume with reduced high frequencies to limit sounds such as footsteps on gravel, grass moving under feet, equipment moving on body.



Mission Audio Profile 3: Conversation

Maximizes the frequencies important for face-to-face communications while lowering the frequencies outside of the average speech band.



Mission Audio Profile 4: Comfort

Low volume and narrow frequency response to be used when in noise for long periods of time (tactical vehicle, air transport) where environmental listening is not prioritized over communications and overall comfort.

Mission Audio Profile 5: Environmental listening off

ComTac VI features the capability to turn the environmental listening function off, while not powering down the headset. This may be beneficial in high noise environments where the least amount of outside sound is desired to help with communications.



Natural Interaction Behavior (NIB)

NIB enables short-range, headset-to-headset communication in high noise environments, without the use of an external communications radio.

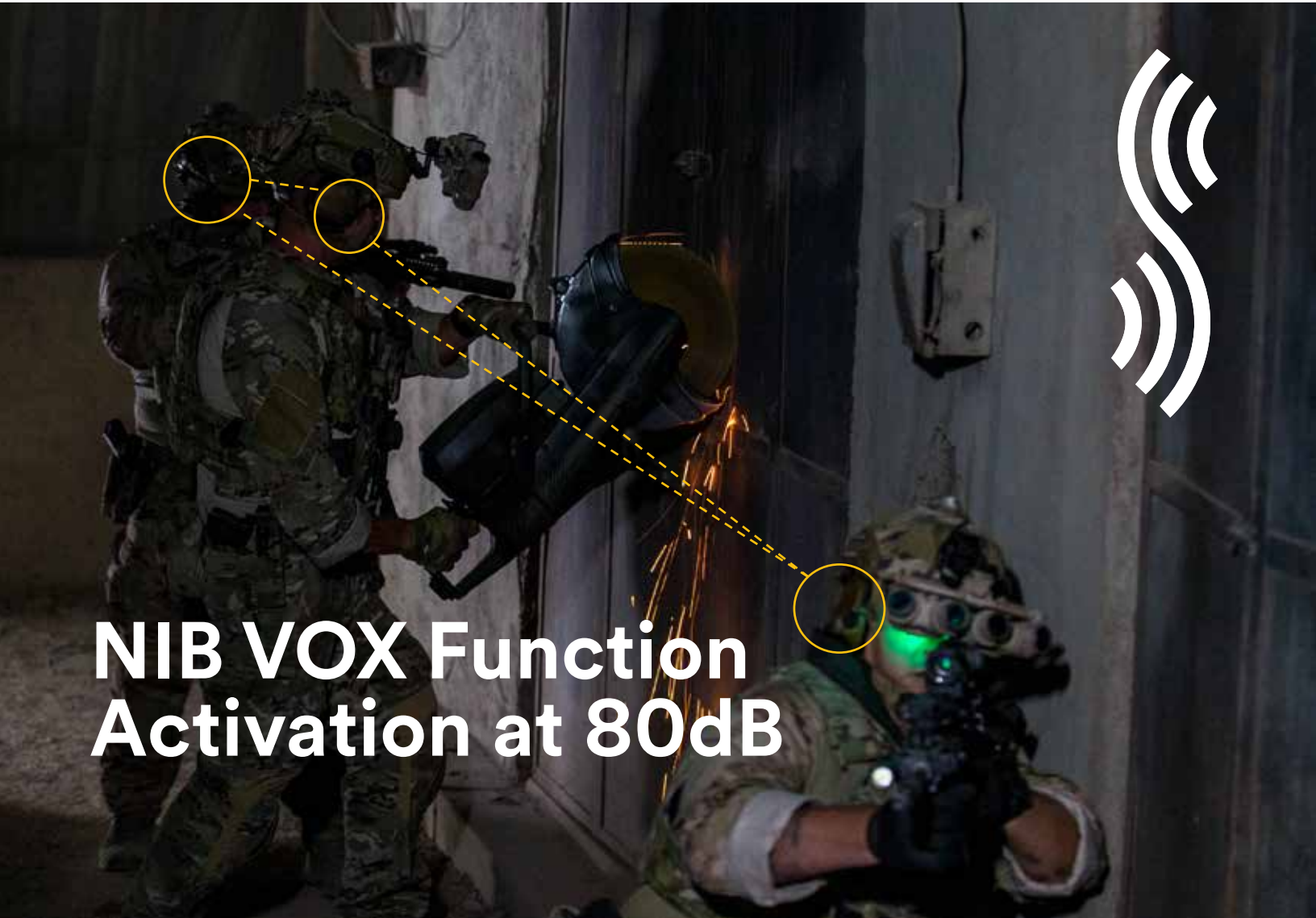
The NIB function allows for 4 team members to speak simultaneously, and over 60 people within a 10 meter radius to listen at any given time.

Audio transmit is activated by either a voice activated switch (VOX) for hands free operations or by push-to-talk.

The VOX switch is adaptive, meaning the threshold to activate will adjust automatically to the noise environment.

To help reduce user burden, a tactile button has been added to the left ear cup that allows the user to easily turn on or off the function / and switch from VOX to PTT settings.

Clear communications in critical operations



The NIB function is easy to use. Team members in proximity of each other (10 Meters) will be automatically connected (when the NIB function is on) with full duplex communications.

When the VOX mode is enabled, as the noise environment gets louder (levels 80db and above) hands free communications is enabled. PTT mode can also be set if the operator wants to manually control the voice transmit.

Optimized design

For tactical operations, many additional considerations have been factored into the design of the ComTAC™ ear cup to ensure compatibility with a variety of warfighter systems.

The ear cup has been designed to help provide the maximum amount of attenuation while limiting the thickness of the cup to a ½ inch at the top (for compatibility with mid and full cut ballistic helmets).

At the bottom, the ear cup is contoured to help cheek-to-stock weld for weapons sighting and a second microphone port is provided for connection to oxygen systems (HAHO/HALO operations) and 3M Scott FRR Respirator.

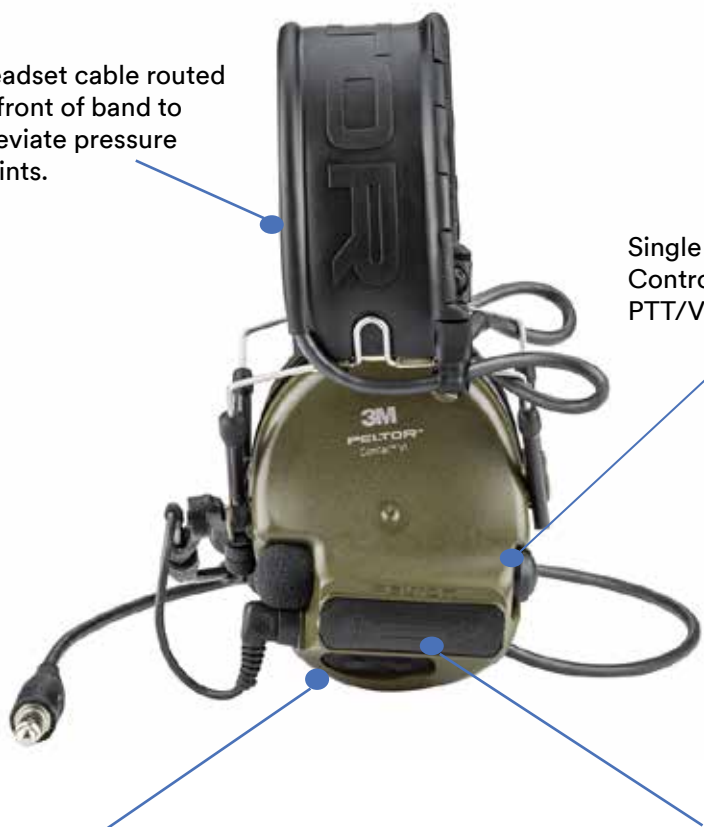


Gel ear cushions

For end users where comfort is paramount, 3M™ PELTOR™ provides gel ear cushions that are for long term wear and use with eye protection.

Headset cable routed in front of band to alleviate pressure points.

Single button NIB Control PTT/VOX



Simple two button interface:
Power On/Off
Volume/MAP
Menu Settings

Water tight battery compartment that does not require a tool to change batteries.

Integrated helmet & communications

Removed pressure points

By attaching to the accessory rail the attachment eliminates potential “hot spots”

Easy donning/doffing

In the “open” position, the operator can easily don/doff the helmet/headset, and adjust for proper fit.

Heat relief

The ability to have an “open” position of the headset allows the user to ventilate in high-heat environments but can still monitor communications in low-noise environments.



Location

Connecting to the top rail allows for even distribution of ear muff compression for optimized hearing protection and reduces the chance of accidental opening during free fall operations.

Stability & balance

In the “closed” position, the ear cups will compress against the head providing additional stability for full head movement.

Transition band

3M has upgraded its headband with a new rubberized transition band to accommodate end user demand for the ability to convert rail mounted systems to a headband. The new headband also offers additional padding for comfort and stronger performance in maritime environments.



New telescope boom

The new transmit microphone has been redesigned with a new microphone element and embedded with patented 3M closed cell foam. Delivers improved noise cancelling transmission in high noise and wind while also improving dust and water ingress protection.

The new design addresses the need to accommodate both left handed and right handed shooters without the need to relocate the microphone to opposite side of the headset.

The telescope boom can adjust its length and both vertical and horizontal orientation. The end is angled for optimal position in front of your mouth, and designed to help stay secure in its position.



Configuration options

1. Band style



Headband & ARC Attachment



Back Band

2. Radio communications



Defender



Single COMM



Dual COMM

3. Color



Coyote Brown



O.D. Green



Black (SWAT-TAC)



Multi-COMM Capability

3M offers a single download headset with a 5-pin connector to support connection to Dual and Multi COMM Communication Control Units (CCUs).

The headset is specially configured to route left and right audio to each ear while helping prevent cross-talk of communications channels.

For more information about this unique configuration headset, please contact a 3M™ PELTOR™ specialist.

Technical Service: 1-800-665-2942

Push-To-Talk Adapters

3M™ PELTOR™ FL4040-02, NATO Wired 6-Pin PTT Adapter

- Switching mechanism to prevent cross-talk
- Swivel, Molle Clip
- MIL-C-55116 6-Pin Connector
- PTT's are designed to fit the size and shape of either hand
- PTT's can be used with a gloved hand
- U-174 Headset Connection serves as a break-away connector for removal in emergency situations
- Tested for cross-talk in DUAL COMM Configuration



3M™ PELTOR™ Push-To-Talk (PTT) Adapter Military Radio FL5601-02, with 6-PIN MIL-C-55116

- PTT's are designed to fit the size and shape of either hand
- PTT's can be used with a gloved hand
- Designed to reduce accidental activation
- U-174 Headset Connection serves as a break-away connector for removal in emergency situations
- Tested for cross-talk in DUAL COMM Configuration
- Also Available for Motorola APX and XTS Series Radios



3M™ PELTOR™ Push-To-Talk (PTT) Adapter FL5601-09 with AP-107 Break Away Connector

- The 3M Ground Vehicle Military PTT Headset comes off-the-shelf with a Large Center PTT and an A/B Toggle for Radio/ICS Switching with AP-107 Break Away Vehicle Adapter Connector
- This configuration provides an additional capability for ground vehicle users over the older 3 Position Toggle Position by allowing to Rx/Tx over the long range radio or over the intercom without having to switch out of ICS
- When Toggled to ICS the operator speaks Hot Mic/Vox over the ICS, when the PTT is pressed the ICS Tx is switched to Tx over the radio

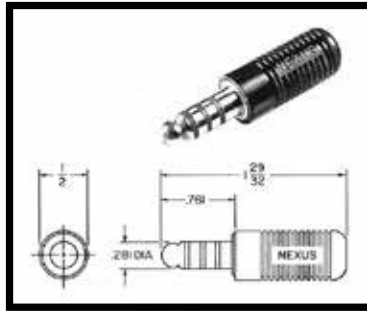


Communications interface

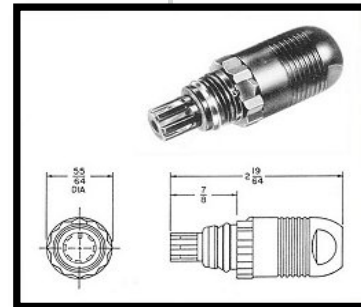
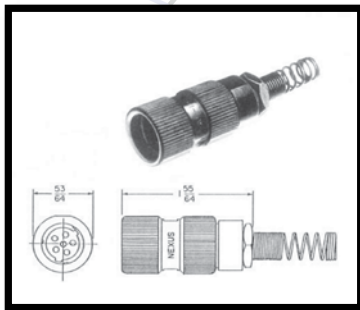
Single and Dual COMM configurations are available for streamline cable management.
In Dual COMM configuration, the downloads separate left and right audio traffic.



Each download terminates in a standard U/174 NATO wired "Quick Disconnect" plug.



The U/174 Plug is a standard military aviation plug and will plug directly into most military aviation intercom systems.



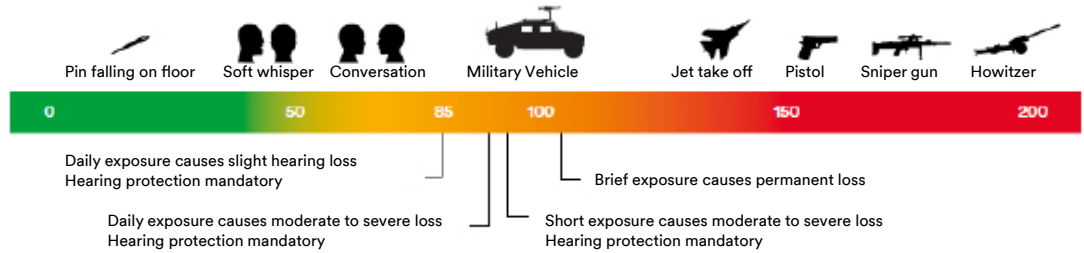
PTT adapters terminates in a 6-pin MIL-C-55166, which will interface to the vast majority of industry radios and intercoms (i.e. AN/PRC-148 MBITR, PRC-152 Falcon).

PTT adapter terminates in a 7-pin Bail-out, which will interface to the majority of mobility platform intercom systems (i.e. AN/VIC-3).

Know your protection



To be effective, a hearing protector should be used 100% of the time in noisy environments. Even taking it off for a short time dramatically reduces its effectiveness and greatly increases the risk of hearing damage.



Noise attenuation performance

MT20H682FB-**N** Folding Band - Gel Cushions

Frequency (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	NRR*	CSA Class
Mean Attenuation (db)	11.4	15.7	21.7	28.9	33.1	40.8	38.8	37.3	37.3	20	B
Standard Deviation (db)	2.8	2.7	2.0	2.7	1.9	3.5	3.7	2.5	3.5		

NOTE: 3M strongly recommends fit testing of hearing protectors. Research suggests that many users will receive less noise reduction than indicated by the NRR due to factors including variation in earplug fit, and earplug fitting skill and motivation of the user. If the NRR is used to estimate typical workplace protection, 3M recommends that the NRR be reduced by 50% or in accordance with applicable regulations.

3M™ PELTOR™ ComTac™ VI is offered in several configuration options, that may result in a different NRR. Test results have shown a range of ratings between 20-23. Individual configuration attenuation performance is provided in the user instructions.

Impulse Noise Protection

- Tested at 168dB in accordance to ANSI S12.42-2010

Test Level Peak Level dB SPL	Peak Insertion Loss dB (PIL)
132	16.7
150	23.6
168	32.2

The 3M™ PELTOR™ ComTac™ VI meets the single hearing protection requirement listed in DA PAM 40 501 Army Hearing Conservation Program 2015 for both steady-state and impulse noise

When worn according to the User Instructions, hearing protector help reduce exposure to both continuous noises, such as industrial noises and noises from vehicles the required and/or actual hearing protection obtained during exposure to impulse use of hearing protection, proper care of hearing protection, and other variables will hearing problem, your hearing may be at risk. To learn more about hearing protection for impulse noise, visit www.3M.com/hearing.



Earplug mode

In military environments, steady state noise levels of 120 dB or higher, are easily achieved. In steady-state high noise environments exceeding 103db, dual hearing protection may be required not only for protection, but to maintain clear communications.

The 3M™ E-A-R™ Classic™ Ear Plug has an NRR of 29 dB*. When used in conjunction with 3M™ PELTOR™ ComTac™ VI, an additional 5dB may be added to the NRR value.

The 3M™ PELTOR™ ComTac™ VI offers a “Ear Plug mode.” In this mode, the headset volume is boosted by approx. 6 dB to help compensate for the additional attenuation provided by the ear plug.

NOTE: 3M strongly recommends fit testing of hearing protectors. Research suggests that many users will receive less noise reduction than indicated by the NRR due to factors including variation in earplug fit, and earplug fitting skill and motivation of the user. If the NRR is used to estimate typical workplace protection, 3M recommends that the NRR be reduced by 50% or in accordance with applicable regulations.

Performance Specifications

Environmental Performance: Tested in accordance with MIL- STD-810G					
Altitude	High Temp / Low Temp	Solar Radiation	Temp Shock	Humidity	Blowing Rain
Salt/ Fog	Shock / Drop	Vibration	Sand / Dust	Fungus	Explosive Atmosphere

Electromagnetic Interference: Tested in accordance to MIL STD 461G

Department of Defense Interface Standard, Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment – CS114, RE101, RE-102-4, RS101, and RS103 requirements

Weight

Headband with HY80A:	379g
Back band with HY80A:	352g

Power

Battery type:	2xAAA batteries
Operating time:	Environmental listening: 50 h Environmental listening + NIB: 30 h
Fail Safe	External communications and Environmental Listening functions are independent for Rx/Tx fail safe. In the unlikely event of electronic failure or battery depletion, external device communications will continue to function

NIB Function

Frequency band:	864Mhz and 915Mhz
Operation mode:	Full Duplex
Range:	0~5m: Optimal for communication 5~10m: Fade in and fade out
Modulation:	TDMA protocol
Microphone type:	Dynamic (MT73), (IP68)
Operating temperature:	-4 °F to 131 °F

Immersion Specification

Fresh Water:	-1 meter at 1 hours. Fresh water -6 meter, 10 sec (down and up), 2 cycles
Salt Water:	-2 meter at 30 min. (Salt water: 5%)

Ordering Information

3M SAP ID	Part Number	Description
7100202850	MT20H682FB-09N GN	3M™ PELTOR™ COMTAC VI NIB - O.D. Green Headset - Headband + ARC - Hearing Defender - Includes Gel Ear Cushions
7100202849	MT20H682FB-09N SV	3M™ PELTOR™ SWAT-TAC VI VI NIB - Black Headset - Headband + ARC - Hearing Defender - Includes Gel Ear Cushions
7100202848	MT20H682FB-09N CY	3M™ PELTOR™ COMTAC VI NIB - Coyote Brown Headset - Headband + ARC - Hearing Defender - Includes Gel Ear Cushions
7100202855	MT20H682FB-47N GN	3M™ PELTOR™ COMTAC VI NIB - O.D. Green Headset - Headband + ARC - SINGLE COMM - Includes Gel Ear Cushions
7100202862	MT20H682FB-47N SV	3M™ PELTOR™ SWAT-TAC VI VI NIB - Black Headset - Headband + ARC - SINGLE COMM - Includes Gel Ear Cushions
7100202863	MT20H682FB-47N CY	3M™ PELTOR™ COMTAC VI NIB - Coyote Brown Headset - Headband + ARC - SINGLE COMM - Includes Gel Ear Cushions
7100202859	MT20H682FB-19N GN	3M™ PELTOR™ COMTAC VI NIB - O.D. Green Headset - Headband + ARC - DUAL COMM - Includes Gel Ear Cushions
7100202858	MT20H682FB-19N SV	3M™ PELTOR™ SWAT-TAC VI VI NIB - Black Headset - Headband + ARC - DUAL COMM - Includes Gel Ear Cushions
7100202857	MT20H682FB-19N CY	3M™ PELTOR™ COMTAC VI NIB - Coyote Brown Headset - Headband + ARC - DUAL COMM - Includes Gel Ear Cushions
7100202847	MT20H682BB-09N GN	3M™ PELTOR™ COMTAC VI NIB - O.D. Green Headset - Back Band - Hearing Defender - Includes Gel Ear Cushions
7100202856	MT20H682BB-09N SV	3M™ PELTOR™ SWAT-TAC VI VI NIB - Black Headset - Back Band - Hearing Defender - Includes Gel Ear Cushions
7100202846	MT20H682BB-09N CY	3M™ PELTOR™ COMTAC VI NIB - Coyote Brown Headset - Back Band - Hearing Defender - Includes Gel Ear Cushions
7100202861	MT20H682BB-47N GN	3M™ PELTOR™ COMTAC VI NIB - O.D. Green Headset - Back Band - SINGLE COMM - Includes Gel Ear Cushions
7100202860	MT20H682BB-47N SV	3M™ PELTOR™ SWAT-TAC VI VI NIB - Black Headset - Back Band - SINGLE COMM - Includes Gel Ear Cushions
7100202854	MT20H682BB-47N CY	3M™ PELTOR™ COMTAC VI NIB - Coyote Brown Headset - Back Band - SINGLE COMM - Includes Gel Ear Cushions
7100202853	MT20H682BB-19N GN	3M™ PELTOR™ COMTAC VI NIB - O.D. Green Headset - Back Band - DUAL COMM - Includes Gel Ear Cushions
7100202852	MT20H682BB-19N SV	3M™ PELTOR™ SWAT-TAC VI VI NIB - Black Headset - Back Band - DUAL COMM - Includes Gel Ear Cushions
7100202851	MT20H682BB-19N CY	3M™ PELTOR™ COMTAC VI NIB - Coyote Brown Headset - Back Band - DUAL COMM - Includes Gel Ear Cushions

For More information
3M.com/PELTORTactical
 Technical Service 1-800-665-2942
 Customer Service 1-800-328-1667

WARNING

Hearing Protection Products

These hearing protectors help reduce exposure to hazardous noise and other loud sounds. Misuse or failure to wear hearing protectors at all times that you are exposed to noise may result in hearing loss or injury. For correct use, consult supervisor and User Instructions, or call 3M PSD Technical Service in the USA at 1-800-665-2942. If there is any drainage from your ear or you have an ear infection, consult with your physician before wearing earplugs. Failure to do so may result in hearing loss or injury.

CAUTION: When worn according to the User Instructions, hearing protector help reduce exposure to both continuous noises, such as industrial noises and noises from vehicles the required and/or actual hearing protection obtained during exposure to impulse use of hearing protection, proper care of hearing protection, and other variables will hearing problem, your hearing may be at risk. To learn more about hearing protection for impulse noise, visit www.3M.com/hearing.

Misuse or failure to wear hearing protectors at all times when exposed to hazardous noise may result in hearing loss or injury.

NOTE: 3M strongly recommends fit testing of hearing protectors. Research suggests that many users will receive less noise reduction than indicated by the NRR due to factors including variation in earplug fit, and earplug fitting skill and motivation of the user. If the NRR is used to estimate typical workplace protection, 3M recommends that the NRR be reduced by 50% or in accordance with applicable regulations.

When additional personal protective equipment is necessary (e.g. safety glasses, respirators, etc.), select flexible, low profile temples or straps to minimize interference with the earmuff cushion. Remove all other unnecessary articles (e.g. hair, hats, jewelry, headphones, hygiene covers, etc.) that could interfere with the seal of the earmuff cushion and reduce the protection of the earmuff.



3M Personal Safety Division
3M Center, Building 235-2NW-70
St. Paul, MN 55144-1000
3M.com/PELTOR

For More information
Technical Service 1-800-665-2942
Customer Service 1-800-328-1667

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